

U.S. Application No. 10/649,635

REMARKS

The Applicant requests reconsideration of the rejection.

Claims 21-24 remain pending.

Claims 21-24 stand rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. As set forth in the Office Action, the Examiner finds a lack of clarity in how the calculations appearing on pages 18-19 of the specification are performed. In reply, the Applicants respectfully submit that the claimed calculations are indeed disclosed sufficiently, as follows.

The calculation shown at the top of page 19 shows how to find the performance level 783 of the record 786. As described on page 18, lines 19-25, the performance level 783 is calculated based on the necessary performance and evaluation function coefficients of the application requirement table 71 (Fig. 3), and is calculated from a record 772 of the total volume table 76 (Fig. 6), the record 723 of the application requirement table 71 (Fig. 3), and the record 742 of the performance table 73 (Fig. 4). In this regard, it is helpful to consult the description at pages 11-18 as well, and particularly the description on pages 13-15 that the write performance value 716, read performance value 717, and IOPS 718 are used as evaluation function coefficients, with reference to Fig. 3 (the independent claims have been amended to clarify that the performance level and reliability level are calculated by using volume attribute information and evaluation function coefficients stored in the management table).

The specification calculation shows the performance level 783 as the following equation (1):

$$1,500 \times 0.5 + 2,400 \times 4.0 + 20 \times 40 = 11,150 \quad (1)$$

which is readily seen to correspond to the following verbal formula (2):

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$$\begin{aligned} & (\text{write performance } 735) \times (\text{evaluation function coefficient for write} \\ & \text{performance value } 716) + (\text{read performance } 736) \times (\text{read performance} \\ & \text{value } 717) + (\text{IOPS } 737) \times (\text{IOPS } 718) = \text{performance level } 783 \quad (2) \end{aligned}$$

based on the description. Specifically, the write performance 735 is taken from record 742 in performance table 73, the evaluation function coefficient for write performance value 716 is taken from record 723 in application requirement table 71, the read performance 736 is taken from record 742 in performance table 73, the read performance value 717 is taken from record 723 in application requirement table 71, the IOPS 737 is taken from record 742 in performance table 73, and the IOPS 718 is taken from record 723 in application requirement table 71. In other words, the equation (1) is simply an example of a calculation using concrete numbers.

Thus, "calculating a performance level" in claim 21 is supported.

Further, as disclosed on page 19, lines 5-10, a reliability level 784 of the record 786 is obtained using the record 772 of the total volume table 76 and the record 756 of the reliability table 75, although the reliability level 754 can be taken as is. Notably, "any calculation can be performed" by installing a formula "in the same manner as the performance level."

As for the calculation of upper and lower limits of threshold value of each classification level, the specification notes that the performance and reliability levels are defined as attributes in a volume management table, and values calculated using an evaluation function for every application are held as these attribute values, such that when the range that corresponds to the specification of a policy element from a user is divided into three levels, the upper and lower thresholds are calculated and reset based on the distribution of the attribute values (page 12, line 24 through page 13, line 6); in step 8505, the upper and lower thresholds that are within the

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performance level selection object range are acquired from the volume table 78 per application (8505) (page 24, lines 21-24); as a specific processing procedure, the records of the volume table 78 per application in which the application type 781 matches the application type specified according to a policy are rearranged at the performance level 783, and the upper and lower limit values that correspond to the range specification of the performance level specified according to the policy are decided (page 24, line 25 through page 25, line 6); if both the performance and reliability levels are assumed to be specified at three levels of "High", "Mid", and "Low", nine volumes each will be included in each level; the threshold (the upper limit value) between "High" and "Mid" of the performance level is decided so that the value of the record (volume) of the performance level 783 column of the volume table 78 per application can be a boundary in the tenth record value from the top; and the threshold (lower limit value) between "Mid" and "Low" is decided so that the value of the record of the performance level 783 can be fixed as the boundary in the 18th record value (page 25, lines 9-19); the records of the volume table 78 per application in which the application type 781 matches the application type specified according to a policy are rearranged at the reliability level 784 and the upper and lower limit values that correspond to the range specification of the reliability level specified according to the policy are acquired; (page 25, line 25 through page 26, line 6); when the policy range specification is "Mid" and the number of records is 27, the tenth record value from the top of the value of the reliability level 784 is set to the upper limit value, and the value of the reliability level 784 is decided so that the 18th record value can be set to the lower limit value (page 26, lines 7-12); and from the records of the volume table 78 per application, the application type 781 matches an application type specified according to a policy, the performance level 783 and the

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reliability level 784 are within the range of the upper and lower thresholds obtained as described above, and an allocated state 785 fixes an "Unallocated" volume as a candidate to be selected (page 27, lines 1-7). Thus, the calculation of upper and lower limit values based on the performance and reliability values is believed to be supported.

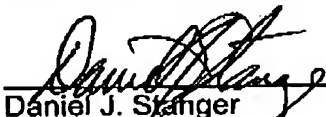
Claims 21-24 were also rejected under 35 USC §112, second paragraph, as being indefinite for the reasons set forth on pages 3-4 of the Office Action. The Applicants submit that the foregoing discussion should be sufficient to clarify any perceived indefiniteness, particularly in light of the amendments.

In view of the foregoing amendments and remarks, the Applicant requests reconsideration of the rejection and allowance of the claims.

To the extent necessary, the Applicant petitions for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger & Malur, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. 520.43063X00).

Respectfully submitted,

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